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FPL

October 21, 2004

L-2004-224
10 CFR 50.59(d)

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Re: St. Lucie Unit 1
Docket No. 50-335
Report of 10 CFR 50.59 Plant Changes

Pursuant to 10 CFR 50.59(d)(2), the attached report contains a brief description of any changes, tests, and experiments, including a summary of the 50.59 evaluation of each which were made on Unit 1 during the period of October 25, 2002 through April 25, 2004. This submittal correlates with the information included in Amendment 20 of the Updated Final Safety Analysis Report submitted under separate cover.

Please contact us should there by any questions regarding this information.

Very truly yours,

William Jefferson, Jr.
Vice President
St. Lucie Plant

WJ/spt

Attachment

IE47

ST. LUCIE UNIT 1
DOCKET NUMBER 50-335
CHANGES, TESTS AND EXPERIMENTS
MADE AS ALLOWED BY 10 CFR 50.59
FOR THE PERIOD OF
OCTOBER 25, 2002 THROUGH APRIL 25, 2004

INTRODUCTION

This report is submitted in accordance with 10 CFR 50.59 (d)(2), which requires that:

i) changes in the facility as described in the SAR;
ii) changes in procedures as described in the SAR; and
iii) tests and experiments not described in the SAR

that are conducted without prior Commission approval be reported to the Commission in accordance with 10 CFR 50.90 and 50.4. This report is intended to meet these requirements for the period of October 25, 2002 through April 25, 2004.

This report is divided into three (3) sections. First, changes to the facility as described in the Updated Final Safety Analysis Report (UFSAR) performed by a Plant Change/Modification (PC/M). Second, changes to the facility/procedures as described in the UFSAR, or tests/experiments not described in the UFSAR, which are not performed by a PC/M. And third, a summary of any fuel reload 50.59 evaluation.

Each of the documents summarized in Sections 1, 2 and 3 includes a 10 CFR 50.59 evaluation that evaluated the specific change(s). Each of these 50.59 evaluations concluded that the change does not require a change to the plant technical specifications, and prior NRC approval is not required.

TABLE OF CONTENTS

SECTION 1

PLANT CHANGE / MODIFICATIONS

PLANT CHANGE/MODIFICATION 02085

REVISIONS 0 & 1

FUEL CASK CRANE REPLACEMENT

Summary:

This PC/M provides modifications to the spent fuel pool cask handling crane system. Specifically, this change package involves the installation of a new safety related 150/25 ton single-failure proof crane that is designed for handling spent fuel dry storage casks. This PC/M is for the installation of the new crane only.

Other activities related to this installation such as removal of the original crane and modification of the crane runway/support structure have been accomplished under other PC/Ms.

Being single-failure proof, a load drop analysis is not required as was the case with the original (non single-failure proof) crane. Therefore, Revision 1 to this Engineering Package reflects that the cask drop analysis formerly described in UFSAR Section 9.1.4 has been deleted. Acknowledgement/agreement between FPL and the NRC concerning this deletion took place via letter correspondence in April 2004.

Other Revision 1 changes were administrative in nature, including procedure changes associated with the change and the removal of hold points associated with the issuance of vendor drawings, vendor manuals and the software evaluation. No additional physical work was associated with Revision 1.

This evaluation included analysis of any potential impact of surrounding safety related components for accidental load drop/impact during installation and for underground utilities and plant roads impact from mobile crane and other heavy equipment transport.

SECTION 2

50.59 EVALUATIONS

EVALUATION SEFJ-02-007
REVISION 0

PSL U1 ACCIDENT DOSE CONSEQUENCES

Summary:

This evaluation revises the accident dose consequences for St. Lucie Unit 1 to incorporate a revised radioisotopic source term and revised accident atmospheric dispersion coefficient (X/Q) values.

The fuel radioisotopic source term was revised to correct non-conservative assumptions made in the previous analysis by Framatome ANP. The X/Q values for the site boundary and the low population zone (LPZ) used for the non-LOCA accident analyses are revised to the more conservative values and the one mile LPZ previously used only for the bounding LOCA event is applied to non-LOCA events.

The original bounding LOCA analyses for site boundary and LPZ doses were reanalyzed by Framatome ANP before Unit 1 initial criticality due to some non-conservative assumptions in the original analyses. These new analyses were not included in all the relevant sections of the UFSAR. This was corrected via Amendment 18.

Investigation into correcting the UFSAR discrepancies found that the relevant non-LOCA site and LPZ affected events used a less conservative X/Q and larger LPZ (five miles versus one mile for bounding LOCA). Although the LOCA remains the bounding event for offsite dose, having a different X/Q value for different events and the use of different LPZs introduces confusion when comparing the dose consequences of the various events. It also makes the acceptability of reanalyzed non-LOCA events more difficult because it is harder to compare events using different assumptions and each time they must be checked against the design basis LOCA to ensure they are still bounded.

The revised dose consequences for the bounding Cask Drop accident credited the use of ICRP-30 Dose Conversion Factors (DCFs) instead of the TID-14844 thyroid DCFs employed in the analysis of record. Use of the ICRP-30 dose conversion factors is consistent with Technical Specification 1.10. All other dose-related design basis accidents and analyses are unaffected by these changes including equipment qualification and other UFSAR radioisotopic source term tables. The impacted events all continue to remain below the applicable limits of 10 CFR 100, 9/9/99, NUREG-0800, US NRC Standard Review Plans, 7/81, and 10 CFR 50 Appendix A, General Design Criteria for Nuclear Power Plants, Criterion GDC 19, 12/23/99.

EVALUATION PSL-ENG-SENS-02-044
REVISION 1

CONTROL OF PAINTING AND CHEMICAL RELEASES POTENTIALLY AFFECTING VENTILATION SYSTEMS

Summary:

For certain ventilation systems, Technical Specification (TS) surveillances require the testing of system filters "following painting, fire or chemical release in any ventilation zone communicating with the system." The intent of this requirement is to ensure that system filters are not rendered inoperable as a result of contamination by paint fumes, smoke, or chemical fumes. For Unit 1, the affected ventilation systems are:

Shield Building Ventilation System
Control Room Emergency Ventilation System
Emergency Core Cooling System Ventilation System
Fuel Handling Building Ventilation System

This evaluation provided the justification to revise the TS Bases to incorporate guidance contained in NRC Regulatory Guide 1.52, Revision 3. This regulatory guide provides clarification with respect to the TS surveillance wording. In addition, this evaluation provided specific plant guidance and controls for painting/chemical release activities in those plant areas to ensure the continued operability of the affected ventilation systems. The changes are consistent with the CEOG Standard Technical Specifications, current regulatory guidance, as well as plant design and licensing requirements. There is no effect on the operation or testing of the subject ventilation systems.

SECTION 3

RELOAD EVALUATION

PLANT CHANGE/MODIFICATION 03112

REVISION 0

ST. LUCIE UNIT 1 CYCLE 19 RELOAD

Summary:

This PC/M provided the reload of the Framatome core design of St. Lucie Unit 1 Cycle 19. The core is designed for a cycle length of 12,360 EFPH.

This engineering modification package provided the design of the St. Lucie Unit 1 Cycle 19 core, including the replacement of 77 irradiated fuel assemblies with 76 fresh batch AA and 1 irradiated Batch S assembly currently residing in the spent fuel pool. The reload also evaluated and accepted redesigned Type 2 CEAs manufactured by Westinghouse.

The safety analysis for Cycle 19 reload design was performed by Framatome ANP and FPL using NRC-approved methodology. The analyses support a departure from nucleate boiling ratio (DNBR) limit at the 95/95 probability/confidence level, consistent with the applicable DNB correlations previously approved by the NRC.

The linear heat rate value corresponding with the fuel centerline melt limit for Cycle 19 is 24.54 kW/ft. All analyses in support of the modification package were performed with the assumption of average steam generator tube plugging level not to exceed 15% average with a maximum asymmetry of +/- 7% about the average.